

### C.1.1.1 Dizziness and vertigo

Component	Description
Review question	In adults and young people who present with dizziness or vertigo, what is the accuracy of accompanying signs and symptoms to support non-specialists in identifying neurological conditions?
Objectives	To identify signs and symptoms that, if presenting with dizziness or vertigo, would indicate a neurological condition that requires referral for further specialist assessment.
Population	Adults and young people who present to a non-specialist with dizziness.
Presence or absence of predictor	<p>The committee identified the following predictors in adults and young people who present with dizziness, for inclusion in the review:</p> <ul style="list-style-type: none"> <li>• ataxia</li> <li>• brisk reflexes</li> <li>• chronic imbalance</li> <li>• extensor plantar responses</li> <li>• fullness in the ear</li> <li>• Hallpike test</li> <li>• head thrust</li> <li>• headache</li> <li>• hearing loss</li> <li>• HINTS exam</li> <li>• intermittency</li> <li>• limb weakness</li> <li>• nystagmus</li> <li>• postural dizziness</li> <li>• skew deviation</li> <li>• tinnitus</li> <li>• vomiting.</li> </ul>
Outcomes	<p><b>Main outcomes:</b></p> <ul style="list-style-type: none"> <li>• Sensitivity (%) and specificity (%)</li> <li>• Area under the ROC curve (AUROC) – measure of predictive accuracy</li> <li>• Positive and negative predictive values</li> </ul> <p><b>Other outcomes:</b></p> <ul style="list-style-type: none"> <li>• Adjusted odds ratios for the presence of the following conditions: <ul style="list-style-type: none"> <li>○ central nervous system causes such as posterior circulation strokes and other (migraines, tumours)</li> <li>○ peripheral vestibular disorders, including posterior semi-circular canal dehiscence, BPPV, and labyrinthitis</li> <li>○ cardiovascular disorders (presyncope, postural hypotension)</li> <li>○ functional disorders</li> </ul> </li> </ul>

Component	Description
	<ul style="list-style-type: none"> <li>○ vertebrobasilar insufficiency.</li> </ul>
Study design	Prospective or retrospective cohort studies with multivariate analysis
Exclusions	<ul style="list-style-type: none"> <li>● Neonates (infants aged 28 days and under)</li> <li>● Studies unadjusted for any of the identified predictors listed above</li> <li>● Studies with univariate analysis only</li> </ul>
How the information will be searched	<p>The following neurological condition groups* will form the basis of the search strategy:</p> <ul style="list-style-type: none"> <li>● ataxia</li> <li>● cranial nerve disorder (the committee specified the 8<sup>th</sup> nerve)</li> <li>● epilepsy</li> <li>● functional Disorders</li> <li>● headaches and migraine</li> <li>● multiple sclerosis and inflammatory disorders</li> <li>● tumours of the nervous system</li> <li>● catch-all group – rare and other neurological diseases.</li> </ul> <p>The following neurological condition groups will not be included in the search strategy:</p> <ul style="list-style-type: none"> <li>● central nervous system infections</li> <li>● development disorders</li> <li>● neuromuscular diseases</li> <li>● peripheral nerve disorders</li> <li>● sleep disorders</li> <li>● traumatic brain and spine injury.</li> </ul> <p><i>*Condition groups taken from Defining Adult Neurological Conditions, National Neurology Intelligence Network, April 2016</i></p>
Key confounders	Any of the predictors listed above
The review strategy	<ul style="list-style-type: none"> <li>● Statistical outputs may include sensitivity, specificity, adjusted odds ratios and AUC.</li> <li>● Meta-analysis where appropriate will be conducted.</li> <li>● Evidence from indirect settings that the committee evaluated to be generalisable to a non-specialist setting will be included in the review.</li> <li>● The risk of bias of each study will be assessed using the QUADAS-2 checklist for diagnostic studies or the NGC checklist for prognostic studies.</li> <li>● The overall quality of the evidence will be assessed using an adapted version of GRADE.</li> <li>● The review may cross-refer to existing NICE guidance, which has identified early signs and symptoms for neurological conditions that present with dizziness or vertigo.</li> </ul>